

Reel # 124
Faix, Zdenek

The use of silicone ...

Z/039/62/023/004/007/010
D291/D303

ASSOCIATION: Východočeské chemické závody Synthesia, Lučební závody
Kolín, n.p. (East-Bohemian Chemical Works Synthesia,
Chemical Plant in Kolín, National Enterprise) (Z. Faix);
TESLA Kolín, n.p. (TESLA Kolín, National Enterprise)
(F. Jiráň)

SUBMITTED December 28, 1961

X

Card 3/3

FAIX, Zdenek, inz.

Removing automobile protective coatings from the glass of cars. Automobil 7 no.1:3 Ja '63.

1. Vychodoceske chemicke zavody Synthesia, n.p., zavod Lucebni, Kolin.

FALZ, Edenek, inz.; SVEHLA, Karol, inz.

Silicon rubber made in Czechoslovakia. Stroj vyr 12 no. 8
426-427 Je '64.

SVETLA, Karel, inz.; POKL, Zdenek, inz.

Silicon rubber properties under difficult conditions. J. Inz.
vyr 12 no.10:738-740 C '64.

1. Vychodoceske chemicke zavody Synthesta National Enterprise,
Plant Kolin.

SVEHLA, K., inz.; FAIX, Z., inz.

A new construction material, silicon rubber. Strojitrenarstvi 15
no.1:64-68 Ja '65.

1. Higher School of Chemical Technology, Prague (for Svehla).
2. Vychodoceske chemicke zavody Synthesia, Kolin (for Faix).

FAIX, Zdenek; SVEHLA, Karel

Czechoslovak silicon cils. Ropa a uhle 6 no.11-338-241
N '64.

1. Vychodoceske chemicke zavody Synthesia National Enterprise,
Plant Kolin (for Faix). 2. Higher School of Chemical Technology,
Prague (for Svehla).

L 49201-65 EPF(c)/EWP(j) Pc-4/Pr-4

ACCESSION NR: AP5015406

CZ/0031/64/012/010/0738/0740

16
B

AUTHOR: Svehla, Karel (Engineer); Fajx, Zdenek (Engineer)

TITLE: Properties of silicon rubber in difficult conditions

SOURCE: Strojirenska vyroba, v. 12, no. 10, 1964, 738-740

TOPIC TAGS: synthetic rubber

ABSTRACT: Technical data are given on Lukopren, the new Czechoslovak synthetic silicon rubber. Tables are presented giving data on changes of its property under high and low temperatures, and in media composed of various aggressive agents. Orig. art. has 4 tables.

ASSOCIATION: VCHZ, Synthesia, n. p., zavod Kolin (VCHZ, Synthesia National Enterprise, Plant in Kolin)

SUBMITTED: 00

ENCL: 00

SUB CODE: MT

NO REF SOV: 000

OTHER: 000

JPRS

Card ^P 1/1

FAIX Zdenek, inz.

New silicon preparations for nonwet treatment in the building
industry. Inz stavby 13 no.1:33-34 Ja '64.

L 9501-66 EWP(j) RM
 ACC NR: AP6002830 SOURCE CODE: CZ/0032/65/015/001/0064/0068
 AUTHOR: Svehla, K.⁴⁴ (Engineer); Faix, Z.⁴⁴ (Engineer) 35
B
 ORG: [Svehla] Higher School of Chemical Technology, Prague (Vysoka skola chemicko-
 technologicka); [Faix] VCHZ Synthesia, Kolin
 TITLE: Silicone rubber,^{15,44} a new structural material
 SOURCE: Strojirenstvi, v. 15, no. 1, 1965, 64-68
 TOPIC TAGS: silicone, synthetic rubber, structural plastic
 ABSTRACT: A review is presented of the various types of silicone rubber which already are being manufactured in Czechoslovakia or which are being developed and will soon be available on the market. The basic properties of the individual types are listed, their advantages over the materials now used are evaluated, and examples of practical application are given. The foreign equivalents of the Czechoslovak silicone rubbers are tabulated. Orig. art. has: 7 figures and 1 table. [JPRS]
 SUB CODE: 11 / SUBM DATE: none

Card 1/1

CIESIELSKI, Roman; FAIX-DABROWSKI, Zbigniew

Mechanized head for an installation for the construction of ferro-concrete chimneys. Przegl budowl i bud mieszk 33 no.2:82 F '61.

CIESIELSKI, Roman, dr inz. (Krakow); FAIX-DABROWSKI, Zbigniew, mgr inz.
(Krakow)

Typification of steel supports for freight cable railways.
Inz i bud 19 no.9:347-352 S '62.

CIESIELSKI, Roman, doc. dr inz.; FAIX-DABROWSKI, Zbigniew, mgr inz.

Reasons for specific bases accepted for the typification of steel
piers for suspended freight ropeways. Inz i bud 20 no.2:67-69
F '63.

h2093

S/166/62/000/005/002/008
B112/B186

24-000

AUTHOR: Faizibayev, E. F.

TITLE: Construction of instationary solutions for certain oscillatory systems

PERIODICAL: Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 5, 1962, 25 - 29

TEXT: Instationary solutions to the equation

$$d^2x/dt^2 + kdx/dt + (\alpha + \gamma_1 x^2)x = \pm(\beta + \gamma_2 x^2)dx/dt + R \sin m\omega t \quad (1)$$

are constructed with reference to higher harmonics. These have the form

$$x(t) = A(t)\sin m\omega t + B(t)\sin m\omega t. \quad (3)$$

The functions $A(t)$ and $B(t)$ have to satisfy the differential equations

Card 1/3

Construction of instationary solutions ...

S/166/62/000/005/002/008
B112/3166

$$\begin{aligned} \frac{dA}{dt} = & \frac{1}{k \left[k - \epsilon \left(2\beta + \frac{5}{4} \gamma_3 a \right) \right]} \cdot \left\{ R(k - \epsilon\beta) - \left[(k - \epsilon\beta) \left(\alpha - m^2 \omega^2 + \frac{3}{2} \gamma_1 B^2 \right) + \right. \right. \\ & \left. \left. + \epsilon \gamma_2 B^2 \left(\frac{1}{4} \alpha + \left(\frac{3}{4} m^2 - n^2 \right) \omega^2 - \frac{3}{8} \gamma_1 B^2 \right) \right] A - \frac{1}{2} \epsilon \gamma_2 R A^2 + \right. \\ & \left. + \left[\frac{1}{2} \epsilon \gamma_2 \left(\alpha - m^2 \omega^2 - \frac{3}{8} \gamma_1 B^2 \right) - \frac{3}{4} \gamma_1 (k - \epsilon\beta) \right] A^3 + \frac{3}{8} \epsilon \gamma_1 \gamma_2 A^4 \right\}, \quad (7) \\ \frac{dB}{dt} = & \frac{1}{k \left[k - \epsilon \left(2\beta + \frac{5}{4} \gamma_3 a \right) \right]} \cdot \left\{ \left[(k - \epsilon\beta) \left(n^2 \omega^2 - \alpha - \frac{3}{2} \gamma_1 A^2 \right) - \right. \right. \\ & \left. \left. - \epsilon \gamma_2 A^2 \left(\frac{1}{4} \alpha - \omega^2 \left(\frac{3}{4} n^2 - m^2 \right) \right) + \epsilon \gamma_2 A \left(R - \frac{3}{4} \gamma_1 A^3 \right) \right] B + \right. \\ & \left. + \left[\frac{1}{2} \epsilon \gamma_2 \left(\alpha - n^2 \omega^2 - \frac{3}{4} \gamma_1 A^2 \right) - \right. \right. \\ & \left. \left. - \frac{3}{4} \gamma_1 (k - \epsilon\beta) \right] B^3 + \frac{3}{8} \epsilon \gamma_1 \gamma_2 B^4 \right\}. \end{aligned}$$

Card 2/3

Construction of instationary solutions ...

S/166/62/000/005/002/008
B112/B186

The case is considered that some of the combination frequencies $3m\omega$, $3n\omega$, $(n + 2m)\omega$, $|n - 2m|\omega$, $|m - 2n|\omega$, $(m + 2n)\omega$ coincide with the ground frequencies m and n . This is possible for

- 1) $m = 1, n = 3, 3m = n, |n - 2m| = m,$
- 2) $m = 3, n = 1, 3n = m, |m - 2n| = n,$
 $m = 1, n = 3.$

ASSOCIATION: Institut matematiki im. V. I. Romanovskogo AN UzSSR
(Institute of Mathematics imeni V. I. Romanovskiy AS UzSSR)

SUBMITTED: April 18, 1962

Card 3/3

FAIZIYEV, M.K..

Empirical formula for the solubility of glaserite in the system
 $\text{Na}_2\text{SO}_4 - \text{K}_2\text{SO}_4 - \text{H}_2\text{O}$ at 25°. Dokl. AN Uz. SSR no.7:25-29 '56.
(MIRA 12:6)

1. Sredneaziatskiy gos. universitet im. V.I. Lenina. Predstavlene
chlenom-korrespondentom AN UzSSR I.P. TSukervaniken.
(Aphthitalite) (Solubility)

FAIZOV, K. Sh.

FAIZOV, K. Sh. -- "Soils and Soil Complexes of the Lower Courses of the Rivers Emba and Sagiz." Academy Science Kazakh SSR. Institute of Soil Science. Alma-Ata, 1955. (Dissertation for the Degree of Candidate in Agricultural Sciences.)

So; Knizhaya Letopis' No 3, 1956

[illegible]

2.7 QUAL : Cultivated Plants. General Problems.

ISSN 0013-788X. *Acta Zool.-Biologica*, No. 5, 1959, No. 10195

Author : Feizov, Kh.; Lysak, G.

1944. : Working Soils by T.S. Valtsev's Method in
1944. : the Steppes of Pre-Uralian Bashkiria.

ORIG. PUB.: S. kh. Bashkirii, 1908, No.5, 12-15

ABSTRACT : No contract

CARD : 1/1

SOKOLOV, A.A.; FAIZOV, K.Sh.

Soils of pine strip forests along the Irtysh River in Pavlodar
Province. Izv. AN Kazakh. SSR. Ser. bot. i pochv. no. 2: 3-15
'59. (MIRA 13:5)

(Irtysh Valley--Forest soils)

DZHANPEISOV, R.; SOKOLOV, A.A.; FAIZOV, K.Sh.; BEZSONOV, A.I., glavnyy red.; USPANOV, U.U., zam.glav'nogo red.; BOROVSKIY, V.M., red.; SOKOLOV, S.I., red.; STOROZHENKO, D.M., red.; BARLYBAYEVA, K.Kh., red.; IVANOVA, E.I., red.; PROKHOROV, V.P., tekhn.red.

[Soils of the Kazakh S.S.R. in 16 volumes] Pochvy Kazakhskoi SSR v 16 vypuskakh. Alma-Ata. Vol.3. [Soils of Pavlodar Province] Pochvy Pavlodarskoi oblasti. 1960. 264 p.
(MIRA 13:11)

1. Akademiya nauk Kazakhskoy SSR, Alma-Ata. Institut pochvo-vedeniya.

(Pavlodar Provinces--Soils)

SOKOLOV, A.A.; DZHANPEISOV, R.; FAIZOV, K.Sh.

Classification of Chestnut soils of the Irtysh Valley. Izv.AN
Kazakh.SSR.Ser.bot.1 pochv. no.2:36-45 '60. (MIRA 13:8)
(Pavlodar Province--Soils--Classification)

FAIZOV, K.Sh.; KURMANGALIYEV, A.B.

Soil cover in the piedmont plain of the Ket~~men~~' Range and the
adjacent left bank of the Ili River. Trudy Inst. pochv. AN
Kazakh. SSR. 15:44-65 '63. (MIRA 16:12)

SOKOLOV, A.A.; FAIZOV, K.Sh.

Solonetz soils in the Pavlodar area of the Irtysh Valley.
Trudy Inst. pochv. AN Kazakh. SSR 15:66-125 '63. (MIRA 16:12)

KOST, A.N.; FAIZOVA, G.K.; GRANDBERG, I.I.

Pyrazoles. Part 36: Chromatography of pyrazoles in a loose
thin layer of aluminum oxide. Zhur.ob.khim. 33 no.2:533-
537 F '63. (MIRA 16:2)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Pyrazole) (Chromatographic analysis)

GRANDBERG, I.I.; TABAK, S.V.; FAIZOVA, G.K.; KOST. A.N.

Pyrazoles. Part 37: Chromatographic separation of aminopyrazoles.
Zhur. ob. khim. 33 no.8:2585-2586 Ag '63. (MIRA 16:11)

GRANDBERG, I.I.; KRASNOSHCHEK, A.P.; KOST, A.N.; FAIZOVA, G.K.

Pyrazoles. Part 38: Isopyrazole-pyrazole rearrangement. Zhur.
ob. khim. 33 no.8:2586-2597 Ag '63. (MIRA 16:11)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.

GRANDBERG, I.I.; FAIZOVA, G.K.; KOST, A.N.

Possibility of calculating the basicity of pyridine bases.
Zhur. org. khim. 1 no.8:1348-1351 Ag '65. (MIRA 18:11)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

FACH, 2.

"Ignorance helps to spread tuberculosis." p. 11. (Borba Protiv Tuberkuloze. Vol. 1, no. 1, Jan./Feb. 1953. Beograd)

SO: Monthly List of East European Accessions, Vol. 3, no. 3. Library of Congress. March 1954.
Uncl.

FAJA, S.

"We met Biljana Again." p. 12

(Borba Protiv Tuberkuloze. Vol. 1, no. 2, June 1953 Beograd.)

SO: Monthly List of East European Accessions; Vol 3, No 6, Library of Congress,
Feb. 1954, Uncl.

KENIAIAN, H.; FAJANS, A.

Thermodynamics of chemically reacting mixtures. Pt. 8. *Bul chim PAN* 12 no.4:255-262 '64.

1. Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw. Presented by W. Swietoslowski.

FAJANS, A.

Thermodynamic properties of the tert-butyl alcohol--benzene system.
Pt.1. Bul chim PAN 12 no.12:877-881 '64.

1. Institute of Physical Chemistry of the Polish Academy of
Sciences, Warsaw. Submitted October 14, 1964.

PAULICEK, R.; FAJBER, J.

Fast hardening mixtures with water glass. Slevarenstvi
10 no.9:342-345 S '62.

1. Turcianske strojarne, Martin.

FAJC, Jan; SKOPAL, Jaromir

Looking for a producer! Tech praca 16 no.12:981-982 D '64.

1. Research and Testing Institute of Aeronautics, Letnany.

1ST AND 2ND ORDER										PROCESSES AND PROPERTIES INDEX									
FAJDA, I.										35									
B																			
<p>Budapest. Imre Fajda, <i>Light Metals</i>, v. 11, Aug. 1948, p. 422-435.</p> <p>Surveys the role of aluminum production and fabrication, at the recent international trade fair held in Budapest. Critical comments are added regarding the present technical state of light metal industries in Hungary.</p>																			
<p>ABO-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>										<p>RIGHTS DIVISION</p>									
<p>SEARCHED SERIALIZED INDEXED</p>										<p>FILED</p>									

Fajda, O.

Microbiological studies in the sugar industry. III. Factory experiments during the 1958/59 campaign. p.220

CUKORIPAR. (Cukoripar es Mezogazdasagi es Elemiszeripari Tudomanyos Egyesulet.
Budapest, Hungary. Vol. 12, no.8, August 1959

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no.11
November 1959
Uncl.

YUGOSLAVIA

M. VANDEKAR and T. FAJDETIC, [Affiliation same as above.]

"Cannulation of Rat Jugular Vein and Toxicologic Studies."

Zagreb, Arhiv za Higijenu Pada i Toksikologiju, Vol 13, No 4, 1962; pp 319-323.

Abstract [English summary modified]: Detailed description of the method, used by authors for several years now for slow i.v. infusions, or to obtain repeated small specimens of venous blood for studies related to organic phosphate and oxime - blood cholinesterase levels. Two drawings, 1 photograph; 3 Western and 3 Yugoslav references.

.1/1

MIHAILOVIC, M.; FAJDIGA, N.; MIHAILOVIC, M.V.

Film dosimetry for determining personnel exposure dose. Acta med.
iugosl. 16 no.2:141-150 '62.

1. Medicinski fakultet u Ljubljani.
(RADIOMETRY)

Fajdiga NADJA

YUGOSLAVIA/Nuclear Physics - Instruments and Installations
Methods of Measurement and Investigation.

C-2

Abs Jour : Referat Zhur - Fizika, No 1, 1958, 316

Author : Fajdiga Nadja

Inst : University of Ljubljana, Yugoslavia

Title : Dose Measurements on the 31 Mev Betatron.

Orig Pub : Repts "J. Stefan", Inst., 1956, 3, 241-246

Abstract : Measurements were made of the spatial distribution of the dose of radiation, generated by the 31 Mev betatron at a distance of 100 cm from the target. The measurements were made with the aid of a Victorine ionization dosimeter with a plexiglass phantom 25 x 25 x 30 cm, made up of plates 6.35 mm thick. The dose distribution with depth and in the radial plane is given. The maximum value of the dose was observed at a depth of ~ 5 cm. The average dose

Card 1/2

YUGOSLAVIA/Nuclear Physics - Instruments and Installations.
Methods of Measurement and Investigation.

C-2

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 316

strength amounted to 10 -- 60 roentgen per minute, and
the pulse value is 2 -- 12×10^4 roentgen per minute.

Card 2/2

FAJECKA, H.

KWIEK, S.; FAJECKA, H.

Frequency of streptomycin resistance in Mycobacterium tuberculosis. Gruzlica, Warsz. 19 no. 4:438-446 July-Aug. 1951(CIWL 21:3)

1. Of the Department of Bacteriology of the Institute of Tuberculosis (Director--Docent J. Misiewicz, M. D.), Warsaw.

KRZYSZTOPORSKI, Stanislaw; FAJER, Jerzy; JEDRYKA, Regina.

Modification of total hysterectomy in cancer of the vaginal portion of the uterus. Gin. polska 27 no.1:35-40 1956.

1. Z II Kliniki Położnictwa i Chorob Kobietych A.M. w Łodzi
Kierownik Kliniki: prof. dr S.Krzysztoporski. Łódź, Mickiewicza
12 m. 14.

(CERVIX, UTERINE, neoplasms,
surg. hysterectomy, total, modified technic (Pol))

FAJER, Jerzy.

Technique of the cesarean section in transverse positions.
Gin. polska 28 no.2:177-178 Mar-Apr. 1956.

1. Z Oddziału Ginekologiczno-Położniczego Szpitala Powiatowego
im. 22-go Lipca w Rawie Mazowieckiej. Kierownik Specjalizacji:
Prof. dr. S.Krzysztoporski. Dyrektor Szpitala: W.Dąbrowski.
Ordynator Oddziału: J.Fajer. Rawa Mazowiecka. Szpital Powiatowy.

(CESAREAN SECTION

in transverse positions, technic (Pol))

(LABOR PRESENTATION,

transverse, cesarean section (Pol))

FAJER, Jerzy

Case of coexistence of interlaminar cancerous cyst of the ovary with uterine myoma. Gin. polska 28 no.5:555-558 Sept-Oct 56.

1. Z Oddziału Ginekologiczno-Położniczego Szpitala Pow. im. 22 Lipca w Rawie Mazowieckiej. Kierownik specjalizacji: prof. dr. St. Krzysztoporski. Dyrektor Szpitala: dr. W. Dabrowski. Ordynator Oddziału: J. Fajer, Rawa Mazowiecka--Szpital Powiatowy.

(OVARIES, cysts

interlaminar cancerous cyst with uterine myoma (Pol))

(UTERUS, NEOPLASMS, complications

ovarian cyst, interlaminar cancerous, with leiomyoma (Pol))

(LEIOMYOMA, complications

uterus, with interlaminar cancerous ovarian cyst (Pol))

FAJER, Jerzy

TATON, Jan; FAJER, Jerzy

Case of acute renal failure after intra-arterial transfusion with incompatible Rh- and of labor hemorrhage. Gin. polska 28 no.2:217-223 Mar-Apr 57.

1. Z III Kliniki Chorob Wewnętrznych A.M. w Warszawie Kierownik: prof. dr. J. Węgierko Z Oddziału Położniczego Szpitala Powiatowego w Rawie Mazowieckiej Dyrektor Szpitala: W. Dąbrowski Ordynator Oddziału Ginekologiczno-Położniczego: J. Fajer.

(LABOR, hemorrh.

with acute renal failure caused by incompatible Rh factor (Pol))

(KIDNEY DISEASES, etiol. & pathogen.

acute renal failure caused by incompatible Rh factor in transfusion for labor hemorrh. (Pol))

(RH FACTORS

incompatibility causing acute renal failure following transfusion in labor hemorrh. (Pol))

FAJER, Jerzy

A modified technique for cesarean section. Polski tygod. lek. 17 no.3:
92-96 Ja '62.

1. Z Oddziału Ginekologiczno-Położniczego Szpitala Miejskiego w
w Łowiczu; dyrektor Szpitala: dr Jan Kaczorowski; ordynator Oddziału;
dr med. Jerzy Fajer.

(CESAREAN SECTION)

WATER, CHAY

A case of placenta praevia in the late term of pregnancy, treated
by posterior vaginal cesarean section. Br. J. Obs. Gynaecol. 1971;
26:6 Nr-4p 164.

1. S. Instytut położnictwa-ginekologii i chirurgii
kobiet (Ordynator: dr. med. J. Fajon).

FASER, Jerzy; BAKAROWSKI, Konrad

Excessive priapism as an obstetric ward problem. Pol. Gyn. J. 1984.
19 nr. 1:426-428 16 Mr '84.

1. 2 Gdzialu gin.-polozn. Szpitala Miejskiego w Lowiczu (ordynator:
dr. med. Jerzy Fajer).

Wojcikowski, Roman; Fajek, Jerzy

Giant fetus as an obstetric ward problem. Pol. tyd. lek. 19 no.14:
511-512 30 Mr '64.

1. Z Oddziału Ginekologiczno-Pole Szpitala Miejskiego w
Łodzi. (ordynator: dr. med. Jerzy Fajek).

LASZKA, Boleslaw; PIOTROWSKI, Romuald; FAJERTAG, Jan

The value of temporal bone roentgenography in the diagnosis of latent mastoiditis in infants. Otolaryng. Pol. 17 no.3:265-272 '63.

1. Z Wojewodzkiego Szpitala Dziecięcego im. Popowskiego w Olsztynie; dyrektor szpitala: dr. O. Szwalkiewicz.

*

FAJERTAG, W.

"The rationalization movement should be intensified" p. 306 (MATERIALY BUDOWLANE,
Vol. 7, no. 11, Nov. 1952 Warszawa, Poland)

SO: Monthly List of East European accessions, Vol. 2, #8, Library of Congress
August, 1953, Uncl.

FAJFR, M.

621.315.618
 139. VULCANIZED RUBBERS THAT DO NOT CORRODE
 UNTINNED COPPER CONDUCTORS ~~5M. F. K.~~
 Elektrotech. Obsor, Vol. 45, No. 7, 145-52 (1958). In Slovak.
 Preliminary experiments have shown that sulphur is the cor-
 roding agent in vulcanized rubbers applied to copper foils. With the
 aim of saving tin a search was carried out to find vulcanizers that
 will act without the addition of sulphur. Test results show that a
 2% addition of thiram (tetra-methyl-thiram-dithiophide) and an
 addition of 1.5% of captax (mercapto-benzothiazol) will yield good
 results with no progressive corrosion after the initial vulcanizing
 process is completed. Copper does not have a destructive influence
 on rubber vulcanized in this fashion. A test method for measuring
 the corrosive effect of vulcanizers, based on the change of the ohmic
 resistance of a copper strip, has been developed.

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NS Am 1

ZIMONJIC, B.; FAJGELJ, A.; VASILJEVIC, M.

Chronic kidney diseases in Semberia. Med. arh. 15 no.3:79-97
My-Je '61.

1. Intrena klinika Medicinskog fakulteta u Sarajevu (Sef: prof.
dr Bogdan Zimonjic).
(KIDNEY DISEASES epidemiol)

YUGOSLAVIA

ZARKOVIC, G.; FAJGELJ, A.; and POPOVIC, N.; Department of Public Health and Sanitation (Institut za higijenu i socijalnu medicinu, Medicinski fakultet) of Medical College, Sarajevo.

"Penetration of Iodine-131 Through the Intact Human Skin."

Zagreb, Arhiv za Higijenu Rada i Toksikologiju, Vol 16, No 4, 1965; pp 319-327.

Abstract [English summary modified]: Report of investigation on the percutaneous penetration of I₁₃₁ in 17 men and 12 women during 48 hours, as 80 to 100 µc of NaI₁₃₁ under plastic occlusive dressing. Sodium perchlorate 100 mg. was fed daily to prevent thyroid uptake of isotope. Absorption was found higher in women, and higher on the dorsal than palmar surface of hand. Two photographs, 3 tables; 8 Western references; manuscript received 10 Feb 65.

1/1

YUGOSLAVIA

Prof Dr B. ZIMONJIC, Dr A. FAJGELJ, Dr R. BOKONJIC, Dr M. MUTEVELIC and Dr A. MUSAFIJA, First Internal Medicine Clinic of Medical Faculty (Interna klinika I Medicinskog fakulteta) and Laboratory for Use of Radioisotopes (Punkt za primjenu radioaktivnih izotopa) Chief (Sef) Prof Dr B. ZIMONJIC, Sarajevo.

"Our Results with I^{131} in Therapy of Hyperthyroidism."

Belgrade, Medicinski Glasnik, Vol 17, No 3-4, Mar-Apr 63; pp 106-108.

Abstract [English summary modified]: Report of use of radioiodine in 40 patients since 1960. Excellent results in 53%, good in 25% and none in 19%; complicating hypothyroidism in 3%. Four tables, 2 graphs, 21 references: 18 Western include Belgian thesis, 3 Yugoslav.

1/1

ZIMONJIC, B., prof., dr.; FAJGELJ, A., dr.; BOKONJIC, R., dr.;
MUTEVELIC, M., dr.; MUSAPIJA, A., dr.

Our results with the use of radioactive I-131 in the treatment
of hyperthyroidism. Med. glas. 17 no.3/4:106-108 Mr-Apr '63.

1. Interna klinika (I) Medicinskog fakulteta u Sarajevu -
Punkt za primjenu radiaktivnih izotopa (Sef: prof. dr B.
Zimonjic).

(IODINE ISOTOPES, THERAPEUTIC)
(HYPERTHYROIDISM)

S

PAP0,I., prof. dr.; FAJGELJ,I., doc. dr.; POPOVIC, D., doc. dr.

Our experience with open heart surgery using extracorporeal circulation. Med. arh. 18 no.5:9-16 S-0'64.

1. Hirurska klinika VMA, Beograd.

NEDELJKOVIC, Srecko; POPOVIC, Djordje; FAJGELJ, Ivan

Case of Lutembacher's syndrome. Srpski arh. celok. lek.
84 no.2:244-251 Feb 56.

1. IV Interna klinika Medicinskog fakulteta u Beogradu.
Upravnik: prof. dr. Gedomir Plavsic. Interna klinika Vojno-
medicinske akademije u Beogradu. Macelnik; pukovnik prof.
dr. Milan Arsenijevic. Hirurska klinika Vojno-medicinske
akademije u Beogradu. Macelnik; pukovnik prof. dr. Izidor Papo.
(CARDIOVASCULAR DEFECTS, CONGENITAL, case report
Lutembacher's synd., (Ser))

VUKOTIC, Dusan; POPOVIC, Djordje; FAJGELJ, Ivan

Stenosis of pulmonary artery with atrial communication. Srpski
arh. celok. lek. 84 no.10:1173-1180 Oct 56.

1. I Interna klinika Medic. fakulteta u Beogradu, Upravnik: prof.
dr. Branislav Stanojevic. Interna klinika Vojno-medicinske
akademije u Beogradu, Nacelnik: pukovnik profesor dr. Milan Arsenijevic.
Hirurska klinika Vojno-medicinske akademije u Beogradu, Nacelnik:
prof. pukovnik dr. Isidor Papo.

(ARTERIES, PULMONARY, stenosis
with auric. communication (Ser))

(CARDIOVASCULAR DEFECTS, CONGENITAL, compl.
stenosis of pulm. artery with atrial communication (Ser))

MILANOVIC, Dimitrije, sanitetski pukovnik doc. d-r; FAJGELJ, Ivan, sanitetski
potpukovnik d-r; JUZNIC, Marjan, sanitetski pukovnik

Thoracic and thoraco-abdominal injuries. Voj.san.pregl., Beogr.
17 no.4:376-380 Ap '60.

1. Klinika za hirurske bolesti.
(THORAX wds.)
(ABDOMEN wds. & inj.)

JOSIPOVIC, V.; PAPO, I.; CURCIC, M.; FAJGELJ, I.; LUKACEVIC, D.; MIHAILOVIC, D.

Myxoma of the right atrium successfully treated by a surgical method. Acta chir. Iugosl. 10 no.3:261-272 '63

1. Interna klinika B Medicinskog fakulteta u Beogradu (Upravnik: prof.dr. R.Berovic), Hirurska klinika (Nacelnik: gen. prof. dr. I. Papo) i Institut za radiologiju (Nacelnik: puk. prof. dr. M. Curcic) Vojnomedicinske akademije u Beogradu.

5

FAJGIN, J.

POLAND/Chemistry of High Molecular Substances.

F

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 27078.

Author : Fajgin, J.

Inst :

Title : New Views on Formation Mechanism and Structure
of Silice-Organic High Molecular Compounds.

Orig Pub: Przem. chem., 1956, 12, No. 3, 139 - 141.

Abstract: The views on the mechanism of formation reactions and on the structure of organic siloxane polymers suffered important changes during the last years. Contrarily to the assumptions which have existed so far, the hydrolysis with an excess of water results in the intramolecular dehydration of silanediol and in the formation of alkylsilanes (R_2SiO), which polymerize in their turn. Dehydrogenation connected with polycondensation

Card 1/2

NOVAK, Jaroslav, inz.; FAJGL, Josef

Regulation on designing products from plastics.
Normalizace 12 no. 4: 100 Ap '64.

1. Office of Standardization and Measurement, Prague
(for Novak).
2. Plastimat National Enterprise, Liberec (for Fajgl).

FAJGMAN, M.

The storing piling of building materials. p.48
(OCHRONA PRACY; BEZPIECZENSTWO I HIGIENA PRACY, Vol. 10, No. 1, Jan. 1956, Warsaw, Poland)

SO: Monthly List of East European Accessions (FEAL) LC, Vol. 6, No. 9, Sept. 1957, Uncl.

FAJKIEWICZ, Zbigniew

Geophysics of prospecting in the U.S.A. Przegl geol 10 no.6:302-
305 Je '62.

1. Akademia Gorniczo-Hutnicza, Krakow.

✓ 4793. UNDERGROUND GRAVIMETRIC MEASUREMENTS APPLIED TO COAL MINING.
RESULTS AT MIEDOWICE MINE. Pajkiewicz, Z. (Arch. Gór. (Arch. Min. (L).

Full

Kersaw), 1956, vol. 1, (4), 345-355). Gravimetric measurements for the determination of actual rock densities are tabulated. The influence of shafts and excavations was taken into account in calculating the results. The mean density obtained is 2.589 g/cu. cm. against the normal value of 2.50. This implies errors of from 0.4 to 1.34% at different levels, whereas laboratory measurements are subject to errors of 10 to 15%. Knowing the density and the resonance wave velocities, it is possible to determine Young's modulus, Poisson's ratio, the Lamé constants and their derivatives. Gravimetric measurements should enable charts of isodensities to be constructed and the deep tectonics of Silesia to be investigated. The gravimetric method should also help to reveal faults and caverns in mines. (L).

FAJKLEWICZ, Z.

Results of an interpretation of gravitational anomalies in the southern
part of the Pomeranian Ridge. p. 451.
(ACTA GEOLOGICA POLONICA. Vol. 6, no. 4, 1956, Poland).

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 6, June 1957, Uncl.

FAJKLEWICZ, ZBIGNIEW.

Underground gravity measurements in the mines of Upper Silesia.

Varsovie, Poland. Palac Kultury i Nauki, 1957, 11p.

Monthly List of European Accessions (EEAI) LC, Vol. 8, no. 7, July 1959

Uncl.

3,9110

21254

P/026/60/008/004/003/009
A189/A126

AUTHORS: Fajklewicz, Zbigniew; Kordylewski, Jerzy, and Kudelski, Gerard

TITLE: The use and adaption of ARITMA punch-card calculating machines in interpreting measurements in gravity and magnetism

PERIODICAL: Acta Geophysica Polonica, v. 8, no. 4, 1960, 324 - 336

TEXT: The ARITMA punch-card digital computer of Czechoslovak origin, which is also available in Poland, is described. This computer can be used for the interpretation of gravimetric and magnetic measurement charts and scales. In addition the computer is able to compute values for anomalies of higher gravity derivatives. The efficiency of the computer is presented by comparison of two gravity charts, one obtained by ARITMA (Fig. 4) and one obtained by Bouguer (Fig. 1). ARITMA gives a much better idea of distribution of local disturbing anomalies than Bouguer. For the interpretation of data three sets of punch-cards are to be fed into the computer. The machine then tabulates automatically. Computation time for values of the second vertical derivative of gravity is considerably shortened, in comparison with conventional methods, costs are reduced, and many in-between-

Card 1/3

The use and adaption of ARITMA punch-card...

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P/026/60/008/004/003/009
A189/A126

values in the entire interpretation scale can be produced simultaneously. There are 4 tables and 5 non-Soviet-bloc references. The reference to the most recent English-language publication reads as follows: M. H. P. Bott: The Use of Electronic Digital Computers for the Evaluation of Gravimetric Terrain Corrections. Geophysical Prospecting v. 7, no. 1, 1959.

ASSOCIATION: Academia Górniszo-Hutnicza - Kraków

Card 2/3

S/035/62/000/007/073/083
A001/A101

AUTHOR: Fajklewicz, Zbigniew

TITLE: Application of the concept of residual gravity to the method of singling out of local anomalies from the observed field, and a comparison with several known methods

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 7, 1962, 25 - 26, abstract 7G194 ("Prace geol.", 1961, no 2, 133 pp, ill., Polish; Russian and English summaries)

TEXT: This is a work of survey nature. Singling out of local anomalies is treated. The following methods are described: Ye. A. Mudretsova (Tr. geol.-razv. in-ta. AN SSSR, 1955) W. P. Griffin ("Geophys.", 1949 v. 14, no. 1), S. Saxov, K. Nygaard ("Geophys", 1953, v. 18, no. 4), L. Egyed ("Geofiz. Kozlemen.", 1956, no. 3), Yu. D. Bulanzhe and A. N. Tikhonov ("Izv. AN SSSR. Ser. geogr. i geofiz.", 1945. v. 9. no 3), A. K. Molovichko ("Izv. AN SSSR. Ser., geofiz", 1951, no 2), and also the methods based on the application of Neumann external problem to gravity anomalies given in the plane, i.e. those proposed by: L. Peters ("Geophys.", 1949, v. 14, no. 3), E. C. Bullard and R. Cooper ("Proceed. Royal Society", 1948, A).

Card 1/3

Application of the concept of...

S/035/62/000/007/073/083
A001/A101

B. A. Andreyev ("Izv. AN SSSR. Ser. geograf. i geofiz.", 1947, v. 11, no. 1; 1949, v. 12, no. 3), K. Ye. Veselov ("Priklad. geofiz.", no. 11, 1954), K. F. Tyapkin ("Priklad. geofiz.", no. 16, 1957), and C. A. Trejo ("Geophys.", 1954, v. 19, no. 4). The author's evaluation of the listed methods is given. Moreover, the following methods based on the use of electronic computers are considered: W. B. Agocs ("Geophys.", 1951, v. 16, no. 4), S. M. Simpson ("Geophys." 1954, v. 19, no. 2), C. H. Oldham and D. B. Sutherland ("Geophys.", 1955, v. 20, no. 2); (in the latter two methods the regional field is represented by a polynomial of some order, whose coefficients are determined from the condition of minimizing deviations from the observed field), as well as the methods of calculating the second vertical derivative of gravity force, proposed by B. Kosbahne ("Geophys. prospect.", 1953, v. 1, no. 4), L. L. Nettleton ("Geophys.", 1954, v. 19, no. 1), M. Hergert ("Gerlands Beitr. Geophys.", 1957, v. 66, no. 1), O. Rosenbach ("Geophys. prospect.", 1957, v. 5, no. 2), R. A. Henderson and J. Zietz ("Geophys.", 1949, v. 14, no. 4), T. A. Elkins ("Geophys.", 1951, v. 16, no. 1), E. V. McCollum ("Geophys.", 1952, v. 17, no. 1), H. Haalk ("Zs. Geoph. Jubiläumssonderband, 1953), Peters (indicated above publication), V. Baranov ("Geophys. prospect.", 1953, v. 1, no. 3), I. A. Balabushevich and M. Yu. Zel'dina (Publ. Kiyevskoy astr. observ., 1956, no. 7),

Card 2/3

Application of the concept of...

S/035/62/000/007/073/083
A001/A101

I. Sharpe and P. W. Fullerton ("Geophys.", 1952, v. 17, no. 4). The method of singling out regional gravity anomalies, described earlier by the author ("Geophys.", 1959, v. 24, no. 3, 465 - 478) is expounded. Griffin's method is investigated. Some considerations on selection of parameters of a measuring grid and three examples of application of this method (regions of Poznan', Kuyavsko-pomorskiy terrace, Mlava) are presented and the results at different parameters of the measuring grid are compared with methods proposed by Peters, Tikhonov-Bulanzhe and Veselov (calculation of the vertical gravity gradient). The author holds that Griffin's method is not inferior in accuracy to other methods but considerably faster. The examples cited are interpreted from the geological viewpoint. There are 79 references.

M. Yurkina

[Abstracter's note: Complete translation]

Card 3/3

FAJKLEWICZ, Z.

An attempt of estimation of the earth crust thickness in Poland. Bul geolog PAN 11 no. 4:191-195 '63.

Detection of faults in the BD coal mine by means of microgravity measurements. Ibid.:197-200.

1. Department of Geophysics, School of Mining and Metallurgy, Krakow. Presented by W. Goetel.

FAJKEWICZ, Zbigniew

Origin of gravity anomalies in the central part of the Fore-Carpathian Depression. Roczn geol Krakow 33 no. 4:471-491 '63.

1. Department of Geologic Geophysics, School of Mining and Metallurgy, Krakow.

FAJKLEWICZ, Zbigniew

Geologic structure of the Pomeranian anticlinorium in the area of Swidwin and Trzebiatow in the light of interpreted gravity anomalies. Roczn. Geol. Krakow 34 no.1/2:95-114 '64.

1. Department of Geological Geophysics, School of Mining and Metallurgy, Krakow.

FAJKLEWICZ, Z.

Collinear nomograms of gravity terrain correction. Bul geolog
PAN 11 no.2:67-69 '64.

1. Department of Geophysics of the School of Mining and
Metallurgy, Krakow. Presented by W. Goetel.

FAJKLEWICZ, Z.

An attempt at plotting the roof of the Carboniferous layer in the BD-mine by means of microgravity measurements. Bul geolog PAN 12 no.1:9-12 '64.

1. Department of Geophysics of the School of Mining and Metallurgy, Krakow. Submitted November 18, 1963.

FAJKOS, A.

"Introducing longwall mining in the North-Bohemian lignite basin." p. 119.

UHLI. (Ministerstvo paliv). Praha, Czechoslovakia, Vol. 1, No. 4,
Apr. 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8,
August 1959.
Uncla.

FAJKOS, A.

Influence of some aspects of technical development on labor productivity. p. 382.

UHLI (Ministerstvo paliv) Praha, Czechoslovakia. Vol. 1, no. 11, Nov. 1959

Monthly list of East European Accessions (EEAI), Vol. 9, no. 1, Jan. 1960

Uncl.

FAJKOS, Alfred, inz.

"Rock mechanics" by F.Mohr. Reviewed by Alfred Fajkos. Unli 5
no.9:336 S'63.

FAJKOS, J.; JOSKA, J.; PITHA, J.; SORM, F.; LABLER, L.

On steroids. Pts. Coll Cz Chem 28 no.9:2337-2355 S '63.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak
Academy of Sciences. Prague.

The synthesis of 6-methylantone. F. Šorin and J. Fajduš (Inst. of Technol., Prague, Czechoslovakia).
Collection Czech. Chem. Commun. 12, 81-100(1947).—
cis-1,2-Cyclopentanedicarboxylic acid (I), m. 160°, was prepd.
by the method of Lindstedt and Mende (C.A. 28, 6115°).
A small amt. of the *trans*-acid (II), m. 138°, was isolated
in this prepn., by making the hydrolysis mixt. alk., extg.
with CCl₄, rehydrolyzing the ext. with concd. HCl, and
isolating the product. II was prepd. by the Arndt-Eistert
synthesis from 15 g. *trans*-1,2-cyclopentanedicarboxylic
acid and 40 cc. SOCl₂, followed by treatment in Et₂O with
CH₃N₃ (from 88 g. nitrosomethylurea) in ether. The
resulting bis(diazotome) was converted to the diamide
of II by heating 35 min. with 280 cc. dioxane, 150 cc.

FAJKOS, J.

Chemical Abst.

Vol. 48 No. 6

Mar. 25, 1954

Apparatus, Plant Equipment, and Unit Operations

Automatization in chromatographic work. J. Fajkos
(Czech. Akad. Vyd. Prace Czech. Chem. Listy 47,
830-1 (1953))—An automatic device for the continuous re-
ceiving and evapn. of fractions of equal vols. has been de-
signed. M. Hudlicky

9-16-54
gjo

FAJKOS, J.; SOHM, P.

Steroids. Part 7. Synthesis of 3 β -hydroxyandrosta-7,16-diene-16-carboxylic acid. [in Russian with summary in English]. Sbor. Chekh. khim. rab. 19 no. 1:91-97 P '54. (MLRA 7:6)

1. Department of Natural Products, Institut of Organic Chemistry Czechoslovak Academy of Science, Prague. (Acids, Organic) (Androstadiene)

PAJKOS, J.; SORM, F. -

On steroids. Part 9. Synthesis of 3 α -hydroxy-16-ketoandrosterone and of 3,16-diketoandrosterone-(4) [with summary in English]. Sbor.Cech.khim.rab. 19 no.2:349-356 Apr '54. (MLBA-7:6)

1. Department of Natural Products, Institute of Organic Chemistry,
Czechoslovak Academy of Science, Prague.
(Anrogens)

FINES 1.

FAJEC, J.; SORM, F.

Steroids. XI. Preparation of the stereoisomeric androstane-16-carboxylic acids. p. 766. (Collection of Czechoslovak Chemical Communication. Praha. Vol. 19, no. 4, Aug. 1954)

SO: Monthly List of ^{East} European Association (SEAL), LC, Vol. 4, No. 6, June 1978, Uncl.

JOSKA, J.; FAJKOS, J.; SORM, F.

On steroids. Pt. 72. Coll Cz Chem 28 no.1:82-100 Ja '63.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak
Academy of Sciences, Prague.

Expt. 1412

Steroids. XV. Configuration of 16-bromo derivatives of androstane. Jan Hajek (Czech. akad. věd, Prague). *Chem. Listy* 48, 1887-1891 (1954). *Collection Czechoslov. Chem. Commun.* 20, 312-14 (1955) (in English); cf. *C.A.* 49, 10990h. — Bromination of 3 β -methoxy-17-oxoandrostane (I) gave the 16 α -Br deriv. (IIa), reduced with LiAlH₄ to the 16 α -bromo-17 β -hydroxy compd. (IIIa) of the same configuration, whereas reduction with NaBH₄ gave 16 β -bromo-17 β -hydroxy epimer (IIIb). An alk. medium epimerized IIa to the 16 β -Br compd. (IIb). The configurations of IIIa and IIIb were proved by hydrogenolysis of the Br and transformation to 3 β -methoxy-17 β -hydroxyandrostane (IV), and by the action of alk. reagents, which transform IIIa to 3 β -methoxy-16 β ,17 β -epoxyandrostane, whereas IIIb yields I. A similar series of reactions was carried out with the corresponding 3 α -HO analogs. From 3 α -acetoxy-16-androstene (V) was prepd. an α -epoxide, 3 α -acetoxy-16 α ,17 α -epoxyandrostane (VIa), which was transformed to 3 β -hydroxy-16 β ,17 β -epoxyandrostane (VIIb). Hydrogenation of 3 β -methoxy-17-oxoandrostene in AcOH over PtO₂, treatment of the product with a soln. of 1.7 g. CrO₃ at room temp. overnight, diln. with H₂O, and ether extn. yielded 7 g. (70%) I, m. 111-12° (from MeOH-dioxane), [α]_D²⁰ 79.3° (CHCl₃), also obtained ([α]_D²⁰ 70.5°) by refluxing 30 hrs. 100 mg. IIIb with 100 mg. KOH in 10 ml. MeOH, distg. off the MeOH, dilg. the residue with H₂O, and extg. the mixt. with Et₂O. Treating 1 g. I in 8 ml. AcOH with 530 mg. Br and 5 drops 48% HBr in 2 ml. AcOH, amt. adding 3 ml. H₂O after decoloration (15 min.) yielded 45% crude and 25% pure IIa, m. 180-1° (from EtOH), [α]_D²⁰ 46.3°; also obtained (210 mg., [α]_D²⁰ 42.8°) by oxidation of 300 mg. IIIa in 7 ml. AcOH with 100 mg. CrO₃ in the min. amt. of H₂O and extn. with ether; the mother liquors from IIa evapd., the residue taken up in Me₂CO, the IIa which sepd. removed, the soln. evapd., and the residue crystal. from EtOH yielded 84 mg. (65%) IIb.

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m. 150-60°, $[\alpha]_D^{25}$ 100°. IIb was also prepd. by epimeriza-
 tion of IIa; dissolving 45 mg. NaBH₄ in 10 ml. EtOH, de-
 compg. the reagent with 0.3 ml. Me₂CO, adding 200 mg.
 IIa in 5 ml. EtOH after 2 hrs., and letting the mixt. stand 24
 hrs. gave, after diln. with water and ether extrn., 80 mg.
 (40%) IIb, m. 150-60°, $[\alpha]_D^{25}$ 106.8°. IIb was also obtained
 (160 mg. (76%), $[\alpha]_D^{25}$ 109°) by oxidation of 200 mg. IIb
 in 4 ml. AcOH with 60 mg. CrO₃ in the mlu. amt. of H₂O.
 Letting IIa in 25 ml. EtOH stand 20 hrs. with 80 mg. Na-
 BH₄, dilg. the mixt. with 25 ml. ice water, and extg. the
 product with CHCl₃-Et₂O gave 350 mg. IIb, m. 189-91°
 (from EtOH), $[\alpha]_D^{25}$ -4.1°, also obtained (73%, $[\alpha]_D^{25}$
 -5.2°) by the same procedure from 150 mg. IIb and 20 mg.
 NaBH₄, and (55%, $[\alpha]_D^{25}$ -4.8°) by reducing 100 mg. IIb
 with 20 mg. LiAlH₄ in 10 ml. Et₂O at 0°. IIb (100 mg.)
 with 0.5 ml. Ac₂O in 1 ml. C₆H₅N yielded 60 mg. (60%)
 3β-methoxy-16β-bromo-17β-acetoxyandrostane, m. 132-3°
 (from EtOH), $[\alpha]_D^{25}$ 48°. IIa (500 mg.) in 50 ml. Et₂O
 cooled to 0°, gave with 200 mg. LiAlH₄, 230 mg. (45%) IIIa,
 m. 147-8° (from EtOH and from Me₂CO), $[\alpha]_D^{25}$ -8.3°.
 IIIb (250 mg.) with 1 ml. Ac₂O and 3 ml. C₆H₅N yielded 310
 mg. (75%) 3β-methoxy-16α-bromo-17β-acetoxyandrostane, m.
 111-12°, $[\alpha]_D^{25}$ -43.8°. Hydrogenating 200 mg. IIIb in 30
 ml. EtOH over 700 mg. 5% Pd on CaCO₃, 10 hrs., dilg. the
 mixt. with Et₂O, acidifying with dil. HCl, extg. with Et₂O,
 evapd. the solvent, and repeating the hydrogenation once
 more with 700 mg. new catalyst gave 110 mg. (77%) IV, m.
 164-5° (from ligroine), $[\alpha]_D^{25}$ 15.5°, 13.8°, 14.2°, also ob-
 tained (130 mg.) from 300 mg. IIIa by the same procedure,
 and (270 mg., 90%) by refluxing 400 ml. hexahydrobenzoyl
 ester of IV in 30 ml. Et₂O with 300 mg. LiAlH₄, 2 hrs. Re-
 fluxing 250 mg. IIIa with 250 mg. KOH in 25 ml. MeOH 40
 hrs., distg. off the MeOH, dilg. the residue with H₂O, extg.

the mixt. with Et_2O and evap. the solvent after washing
 and drying gave 150 mg. (70%) β -methoxy-16 β ,17 β -epoxy-
 androstane, m. 112-13°, $[\alpha]_D^{25}$ 19.2°. β -Hydroxy-17 β -
 benzoyloxy-5-androstene (1.5 g.) in 10 ml. $\text{C}_6\text{H}_5\text{N}$ allowed to
 stand 80 hrs. with 1.5 g. $p\text{-MeC}_6\text{H}_4\text{SO}_2\text{Cl}$, the mixt. de-
 compounded with ice, the crystals filtered, dissolved in CHCl_3 ,
 Et_2O , the soln. washed with dil. HCl , NaHCO_3 , and H_2O ,
 evapd., and the residue dissolved in Et_2O gave 1.5 g. (72%)
 β -tosyloxy compd., m. 181-3°, (from $\text{Me}_2\text{CO-Et}_2\text{O}$), $[\alpha]_D^{25}$
 -15.7°. This product (1.3 g.) refluxed 3 hrs. with 80 ml.
 abs. MeOH gave, after evapn. to 30 ml., 780 mg. (80%) β -
 methoxy-17 β -benzoyloxy-5-androstene, m. 152-3°, $[\alpha]_D^{25}$
 -19.6° (VIII). Hydrogenating 700 mg. VIII in 20 ml.
 AcOH 30 min. over 100 mg. PtO_2 gave 520 mg. (73%) β -
 methoxy-17 β -(hexahydrobenzoyloxy)androstane, m. 99-100°,
 (from EtOH), $[\alpha]_D^{25}$ 14.7°. β -Acetoxy-17-oxoandrostane
 (1 g.) in 5 ml. AcOH with 490 mg. Br in 3 ml. AcOH and 3
 drops EtOH gave, after 3-5 hrs., 750 mg. crude and 400 mg.
 (30%) pure 16 α -Br deriv. (IXa), m. 173-4° (from ligroine
 and from EtOH), $[\alpha]_D^{25}$ 37.5°, 38.5°, also obtained (830 g.
 (70%)) by brominating 930 g. β -17-diacetoxy-18-andro-
 stene in 20 ml. (CH_2Cl_2) at -10° with 400 mg. Br in 20 ml.
 (CH_2Cl_2). The mother liquors after the crystn. of IXa from
 ligroine yielded, by crystns. from EtOH , 5% β -acetoxy-16 α -
 18-dibromo-17-oxoandrostane, m. 159-60°, $[\alpha]_D^{25}$ 45.5°.
 Treating 2 g. IXa in 50 ml. abs. EtOH with 400 mg. NaBH_4 ,
 allowing the mixt. to stand 18 hrs., dilg. with 50 ml. ice
 water, allowing to stand 4 hrs. at 0°, dilg. with H_2O , and
 extg. with Et_2O yielded 1.21 g. (60%) β -acetoxy-16 β -bromo-
 17 β -hydroxyandrostane (Xb), m. 173-4°, $[\alpha]_D^{25}$ 17.6°. Oxida-
 tion of 800 mg. Xb in 6 ml. AcOH with 100 mg. CrO_3 in the
 min. amt. of H_2O gave 240 mg. (80%) β -acetoxy-16 β -bromo-

Jan. 21, 1962

17-oxoandrosterone (IXb), m. 146-7°, $[\alpha]_D^{25}$ 94°, 92° also obtained by epimerization of IXa by allowing 200 mg. to stand 24 hrs. in 8 ml. AcOH and 1 ml. 40% LiBr, dilg. the mixt. with ice, extg. with Et₂O, and crystg. the mixt. of 40% IXb and 60% IXa from EtOH (IXa deposits first). Xb (300 mg.) with 1.5 g. Ac₂O in 3 ml. CCl₄N gave 200 mg. 87% 3 β ,17 β -diacetoxy-16 β -bromoandrosterone (XIb), m. 161-2°, $[\alpha]_D^{25}$ 42.0°, 41.3°, also obtained by reduction of 600 mg. IXa in 20 ml. abs. Et₂O with 180 mg. LiBH₄ at -10°, acetylation of the product, and chromatography. Hydrogenation of 400 mg. Xb in 80 ml. EtOH over 1 g. Pd on CaCO₃ (twice repeated), and hydrolysis by refluxing the mixt. 2 hrs. with 5% KOH in MeOH gave 210 mg. 3 β ,17 β -dihydroxyandrosterone, m. 163-4°, $[\alpha]_D^{25}$ 5.5°. Hydrogenation of 400 mg. XIb in 25 ml. EtOH 8 hrs. over 700 mg. Pd on CaCO₃, and repeated hydrogenation after addn. of 10 ml. EtOH and 500 mg. catalyst, gave 280 mg. 3 β ,17 β -diacetoxyandrosterone (XIb), m. 128-9° (from EtOH), $[\alpha]_D^{25}$ -1.5° (acetone), also obtained ($[\alpha]_D^{25}$ -1.2°) by hydrogenating 160 mg. 3 β ,17 β -diacetoxy-16 α -bromoandrosterone (XIa) in 20 ml. EtOH over Pd on CaCO₃, and ($[\alpha]_D^{25}$ -1.8°), by acetylating 3 β ,17 β -dihydroxyandrosterone. Refluxing 280 mg. Xb 46 hrs. with 300 mg. KOH in 30 ml. MeOH gave 200 mg. (crude) 3 β -hydroxy-17-oxoandrosterone. Refluxing 280 mg. Xb 46 hrs. with 300 mg. KOH in 30 ml. MeOH gave 200 mg. (crude) 3 β -hydroxy-17-oxoandrosterone, m. 170-7° (from MeOH), $[\alpha]_D^{25}$ 97°, also prepd. (80 mg.) by sapong. 200 mg. XIb, and by sapong. (40 mg.) 100 mg.

3,17-diacetoxy-16 α -bromoandrostan-3-ol (Xic). Reducing 3.5 g. Xla in 200 ml. Et₂O with 1 g. LiAlH₄, 2 hrs. at 0°, decomp. the mixt. with ice, acidifying with dil. H₂SO₄, and extg. with AcOEt gave, after evapn., 2.8 g. of an amorphous mass which, treated with 16 ml. Ac₂O in 20 ml. C₆H₆N 25 hrs. at room temp., yielded 1 g. (80%) Xla, m. 153-4° (from MeOH), [α]_D²⁵ -42.3°. Chromatography of the mother liquors of Xla (2 g.) over 80 g. Al₂O₃ (I-II) gave 320 mg. Xla (C₂H₅ fractions), and 380 mg. Xlc, m. 177-8° (from MeOH), [α]_D²⁵ -18.3° (petr. ether-benzene 4:1). Xlc was also obtained (250 mg., [α]_D²⁵ -17.8°) by reducing 500 mg. Xla with 150 mg. LiBH₄ in 60 ml. Et₂O at 0° (5 hrs.), and by acetylation of the crude intermediate. Hydrogenation of 150 mg. Xlc in 15 ml. EtOH over 400 mg. 5% Pd on CaCO₃ (8 hrs.), repeated with a new portion of 400 mg. catalyst and 10 ml. EtOH, yielded 70 mg. 3 β ,17 α -diacetoxy-androstan-3-ol, m. 144-5° (from EtOH), also obtained (m. 148-9°), by acetylating 60 mg. 3 β ,17 α -diol (XIIa). Refluxing 1.5 g. Xla 48 hrs. with 1.5 g. KOH in 150 ml. MeOH, diss. the mixt. with H₂O, and extg. with Et₂O yielded 720 mg. (74%) VII, m. 148-9° (from MeOH), [α]_D²⁵ 30°, also obtained (46%, [α]_D²⁵ 33°) by refluxing 2 hrs. 3 β ,16 α -diacetoxy-17 α -necyloxyandrostan-3-ol (XIV) with KOH in MeOH, and extg. the mixt. with Et₂O. Refluxing 3 hrs. 1.3 g. Xb in 50 ml. EtOH with 7 g. Zn activated with HCl gave 900 mg. of an oil which, chromatographed over 40 g. Al₂O₃ (I-II), yielded 580 mg. (58%) V, m. 72-3° (from EtOH), [α]_D²⁵ -7.5°, also prepd. [α]_D²⁵ -0.8) by treating in the way described a mixt. of epimeric hemohydriols (obtained

Jan G. Jones
 by the reduction of IXa with LiAlH_4 , and by (85% based on IXa) by acetylation of the α -4-O-compd. and chromatography. V ($[\alpha]_D^{25} -6^\circ$) — prepd. by direct acetylation of 560 mg. 3 β -hydroxy-16-androstene with 3 ml. Ac_2O 2 ml. $\text{C}_6\text{H}_5\text{N}$ and crystn. from EtOH: 3-Oxo-17 β -(hexahydrobenzoyloxy)androstane (4 g.) distd. in 500-mg. portions with a free flame at ordinary pressure gave 2.3 g. of an oil which by sapon. with 70 ml. 6% KOH in MeOH (3 hrs. reflux), extrn. of the mixt. with Et₂O, and chromatography of the residue over 70 g. Al_2O_3 gave 800 mg. (28%) 3-oxo-16-androstene (XV) (petr. ether-benzene 8:1 as eluent), m. 141-2° (from ligroine). Treating 700 mg. XV in 100 ml. Et₂O with 200 mg. LiAlH_4 , 2 hrs. at room temp., refluxing the mixt. 2 hrs., decomp. in the usual way, dissolving the residue (720 mg.) in 40 ml. EtOH, adding 3.5 g. digitonin in 30 ml. aq. EtOH, centrifuging, drying the ppt. at 50° *in vacuo*, dissolving it in 60 ml. dry $\text{C}_6\text{H}_5\text{N}$, pptg. the digitonin with 800 ml. Et₂O, removing the ppt. after 2 hrs., and evapp. the soln. after washing and drying gave 550 mg. (78%) 3 β -hydroxy-16-androstene, m. 124-5°, $[\alpha]_D^{25} 8.6^\circ$. Treating 1.6 g. V in 16 ml. CHCl_3 at -5° with 770 mg. Br_2O_3 in 10 ml. cold (-5°) CHCl_3 , allowing to stand 24 hrs. at -5°, dilg. the mixt. with Et₂O, extg. with 2% Na_2CO_3 until the aq. ext. contained no Br_2O_3 , and evapp. the solvent gave 1.2 g. (70%) VI, m. 110-11°, $[\alpha]_D^{25} 4.7^\circ$. Adding 160 mg. VI in 5 ml. Et₂O to 200 mg. LiAlH_4 in 5 ml. Et₂O, and refluxing the mixt. 5 hrs. yielded 3 β ,17 α -dihydroxyandrostane, m. 213-14° (sublimes

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at 190°/0.001 mm.). ³ ⁴
 ...ng in a sealed tube 800 mg. VI
 with 12 ml. AcOH under N 2 hrs. at 100°, dilg. the mixt.
 with H₂O, and extg. with Et₂O gave 380 mg. (40%) 3 β ,16 β -
 diacetoxy-17 α -hydroxyandrostane, m. 223-4° (from MeOH
 and Me₂CO), [α]_D -23.4°. This (330 mg.) in 4 ml. C₆H₆N,
 cooled to 0°, treated with 500 mg. MeSO₃Cl, and the mixt.
 allowed to stand 3 hrs. at 0°, dild. with ice, and extd. with
 Et₂O gave 300 mg. (75%) XIV, m. 146-7° (from MeOH),
 [α]_D 5.8°. Treating 1 g. 2 α -bromo-3-oxocholestanone (XVI) in
 80 ml. Et₂O with 300 mg. LiAlH₄ at 0° (2 hrs.), decomp.
 the mixt. with ice, adding 50 ml. Et₂O, acidifying with dil.
 H₂SO₄, and evapg. the solvent gave by crystn. from EtOH
 and chromatography of the mother liquors, 780 mg. (78%)
 2 α -bromo-3 β -hydroxycholestanone (XVII), m. 80-80°, resolidifies,
 and finally m. 113-14°, [α]_D 12°. Oxidation of 100 mg. XVII
 in 3 ml. AcOH with 30 mg. CrO₃ in the min. amt. of H₂O,
 soln. of the ppt. by adding 1 ml. C₆H₆, and working up of the
 product after 24 hrs. yielded 75 mg. XVI, m. 171-2° (from
 EtOH), [α]_D 43.5°, also obtained [α]_D 41.8° by the oxi-
 dation of the α -epimer of XVII, 2 α -bromo-3 α -hydroxycho-
 lestanone. Infrared spectra of I, IIa, and IIb are given.

M. Hudlický

Hayles, Jan

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Steroids. XVI. Synthesis and configuration of the two stereoisomeric 3 β ,16-dihydroxyandrostanes. Jan Fajkus and František Šamr (Czech. Akad. v. 61, Prague, July 49, 723, 1955; Collection Czechoslov. Chem. Commun. 20, 1464, 1955; English transl. in J. Org. Chem. 20, 1464, 1955).

1. The authors have shown that the reduction of 16-ketone I gave 16 α -hydroxyandrostane (II) and 16 β -hydroxyandrostane (III), whose catalytic reduction and subsequent oxidation gave 16 α -hydroxyandrostane (IV) and 16 β -hydroxyandrostane (V).

2. The authors have shown that the reduction of 16-ketone I gave 16 α -hydroxyandrostane (II) and 16 β -hydroxyandrostane (III), whose catalytic reduction and subsequent oxidation gave 16 α -hydroxyandrostane (IV) and 16 β -hydroxyandrostane (V).

3. The authors have shown that the reduction of 16-ketone I gave 16 α -hydroxyandrostane (II) and 16 β -hydroxyandrostane (III), whose catalytic reduction and subsequent oxidation gave 16 α -hydroxyandrostane (IV) and 16 β -hydroxyandrostane (V).

4. The authors have shown that the reduction of 16-ketone I gave 16 α -hydroxyandrostane (II) and 16 β -hydroxyandrostane (III), whose catalytic reduction and subsequent oxidation gave 16 α -hydroxyandrostane (IV) and 16 β -hydroxyandrostane (V).

5. The authors have shown that the reduction of 16-ketone I gave 16 α -hydroxyandrostane (II) and 16 β -hydroxyandrostane (III), whose catalytic reduction and subsequent oxidation gave 16 α -hydroxyandrostane (IV) and 16 β -hydroxyandrostane (V).

[α]_D -59°. Refluxing 620 mg. II (dried by distn. with C₆H₆) in 50 ml. C₆H₆, 20 min. with triphenyl phosphite dibromide. Compound III (100 mg.) was dried with Et₂O, washed with 5% NaOH, and H₂O, and then dried with Et₂O. Compound III was then dried with Et₂O, washed with 5% NaOH, and H₂O, and then dried with Et₂O.

6. The authors have shown that the reduction of 16-ketone I gave 16 α -hydroxyandrostane (II) and 16 β -hydroxyandrostane (III), whose catalytic reduction and subsequent oxidation gave 16 α -hydroxyandrostane (IV) and 16 β -hydroxyandrostane (V).

7. The authors have shown that the reduction of 16-ketone I gave 16 α -hydroxyandrostane (II) and 16 β -hydroxyandrostane (III), whose catalytic reduction and subsequent oxidation gave 16 α -hydroxyandrostane (IV) and 16 β -hydroxyandrostane (V).

8. The authors have shown that the reduction of 16-ketone I gave 16 α -hydroxyandrostane (II) and 16 β -hydroxyandrostane (III), whose catalytic reduction and subsequent oxidation gave 16 α -hydroxyandrostane (IV) and 16 β -hydroxyandrostane (V).

9. The authors have shown that the reduction of 16-ketone I gave 16 α -hydroxyandrostane (II) and 16 β -hydroxyandrostane (III), whose catalytic reduction and subsequent oxidation gave 16 α -hydroxyandrostane (IV) and 16 β -hydroxyandrostane (V).

10. The authors have shown that the reduction of 16-ketone I gave 16 α -hydroxyandrostane (II) and 16 β -hydroxyandrostane (III), whose catalytic reduction and subsequent oxidation gave 16 α -hydroxyandrostane (IV) and 16 β -hydroxyandrostane (V).

OVER (2)

JAN FAJROS

Reduction: 500 mg. V in 118 ml. from EtOH or Me₂CO
 144-8° (from MeOH), [α]_D²⁰ -7.8°. Reducing 300 mg. V in 30
 ml. EtOH with 4 g. Raney Ni, removing the catalyst
 with 10 ml. EtOH, and drying the residue in vacuo
 gave 100 mg. VI, m.p. 144-8°.

Reduction: 600 mg. VIII in 10 ml. dioxane with 200 mg. LiAlH₄, 15 hrs. at 80° and
 crystn. from MeOH and C₆H₆ gave 30 mg. 3,3,17,8-dihydroxy-
 androstane and benzoylation of the residue yielded after
 crystallization 10 mg. 3,3,17,8-dibenzoyloxyandrostane
 m.p. 144-8° (from MeOH), [α]_D²⁰ -7.8° and 60 mg.
 3,3,17,8-dibenzoyloxyandrostane m.p. 144-8° (from MeOH).

Reduction: 500 mg. VII in 60% yield
 144-8° (from MeOH), [α]_D²⁰ -7.8°. Reducing 300 mg. VII in 10 ml.
 EtOH with 4 g. Raney Ni, removing the catalyst with 10 ml.
 EtOH, and drying the residue in vacuo gave 100 mg. 3,3,17,8-
 dihydroxyandrostane (XIV), m.p. 144-8°, [α]_D²⁰ -7.8°. Reducing 540 mg. XIV in 15 ml. EtOH with 400
 mg. Raney Ni and 10 ml. EtOH, removing the catalyst with 10 ml.
 EtOH, and drying the residue in vacuo gave 100 mg. VII, m.p. 144-8°.

Reduction: 500 mg. VII in 60% yield
 144-8° (from MeOH), [α]_D²⁰ -7.8°. Reducing 300 mg. VII in 10 ml.
 EtOH with 4 g. Raney Ni gave 380 mg. 3,3,17,8-dihydroxy-
 androstane (XV), m.p. 144-8°, [α]_D²⁰ -7.8°. Reducing 300 mg.
 XV in 10 ml. EtOH with 4 g. Raney Ni gave 100 mg. VII, m.p. 144-8°.

distg. off the MeOH, and crig. the residue with AcOEt.
 EtO mixt. gave 210 mg. 3,3,17,8-dihydroxy-5-
 androstene (XVI), m.p. 144-8°, [α]_D²⁰ -7.8°. Benzoylation
 of 700 mg. XVI with 200 mg. C₆H₅COCl in 10 ml. EtOH
 gave 200 mg. 3,3,17,8-dibenzoyloxy-5-androstene (XVII), m.p. 144-8°.
 Reduction: 500 mg. XVII in 60% yield
 144-8° (from MeOH), [α]_D²⁰ -7.8°.

Reduction: 500 mg. XVI in 60% yield
 144-8° (from MeOH), [α]_D²⁰ -7.8°. Reducing 100 mg.
 dry XVI with 10 ml. 1.5% HCl in acetone 30 min. at room
 temp. and neutralizing the mixt. with 2% NaHCO₃ gave
 90 mg. 3,3,17,8-dihydroxy-5-androstene (XVIII), m.p. 144-8°.
 Reduction: 500 mg. XVIII in 60% yield
 144-8° (from MeOH), [α]_D²⁰ -7.8°. Reducing 100 mg.
 XVIII with 10 ml. 1.5% HCl in acetone 30 min. at room
 temp. and neutralizing the mixt. with 2% NaHCO₃ gave
 90 mg. 3,3,17,8-dihydroxy-5-androstene (XVIII), m.p. 144-8°.

Reduction: 500 mg. XVIII in 60% yield
 144-8° (from MeOH), [α]_D²⁰ -7.8°. Reducing 100 mg.
 XVIII with 10 ml. 1.5% HCl in acetone 30 min. at room
 temp. and neutralizing the mixt. with 2% NaHCO₃ gave
 90 mg. 3,3,17,8-dihydroxy-5-androstene (XVIII), m.p. 144-8°.
 Reduction: 500 mg. XVIII in 60% yield
 144-8° (from MeOH), [α]_D²⁰ -7.8°. Reducing 100 mg.
 XVIII with 10 ml. 1.5% HCl in acetone 30 min. at room
 temp. and neutralizing the mixt. with 2% NaHCO₃ gave
 90 mg. 3,3,17,8-dihydroxy-5-androstene (XVIII), m.p. 144-8°.

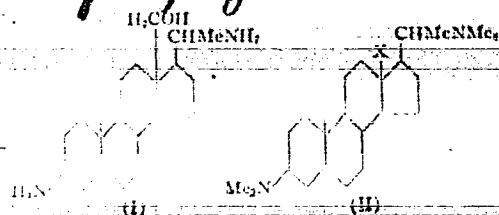
The nature of the hydroxyl group in 3,3,17,8-dihydroxy-5-androstene (XVIII)
 and 3,3,17,8-dihydroxy-5-androstene (XVIII) was determined by
 reduction with 10 ml. 1.5% HCl in acetone 30 min. at room
 temp. and neutralizing the mixt. with 2% NaHCO₃ gave
 90 mg. 3,3,17,8-dihydroxy-5-androstene (XVIII), m.p. 144-8°.

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Gan, Fajkov

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73



CH₃OH) (IIa) (1 g.), m. 209-10°, $[\alpha]_D^{25}$ 10°, in 40 ml. AcOH and 30 ml. H₂O, was oxidized with 400 mg. CrO₃ in 10 ml. H₂O at 17°. After the addn. of 15 ml. MeOH (after 15 min.) the mixt. was poured on ice and NH₄OH, the product extd. with Et₂O, the ext. washed with H₂O, dried with Mg SO₄, evapd., the partly cryst. residue dissolved in petr. ether, the undissolved portion (35 mg. recovered IIa) filtered off, and the filtrate chromatographed to give 545 mg. II (X = CHO) (IIb), m. 101-3° (from petr. ether), $[\alpha]_D^{25}$ 55°, *oxime*, m. 258-60°. Reduction of 145 mg. IIb with 80 mg. LiAlH₄ in 10 ml. Et₂O, alkalization of the mixt. with 50 ml. 15% KOH, and extra. with Et₂O gave 120 mg. IIa, m. 213-14°, $[\alpha]_D^{25}$ 9.5°. A more efficient oxidation of IIa (1 g.) in 80 ml. AcOH and 11 ml. H₂O with 10 ml. of a soln.

precpd. from 5.3 g. CrO₃, 8 ml. H₂SO₄, and 40 ml. H₂O, destruction of the excess CrO₃ with Na₂SO₃, partial neutralization of the mixt. with a soln. of 3 g. NaOH, three-fold evapn. to dryness *in vacuo* after the addn. of 20 ml. HCl, dissolution of the residue in 30 ml. H₂O, addn. of 100 ml. EtOH, evapn. of the EtOH ext., and purification of the residue from Cr(III) salts gave II (X = CO₂H) (IIc), which was esterified with CH₃N₃ to its *Me ester* (IId) (422 mg.), m. 115-17°, $[\alpha]_D^{25}$ 30° (from Me₂CO). Sapon. of 31.5 mg. IId by refluxing 4 hrs. with 2.8 ml. EtOH and 0.7 ml. aq. 0.5N NaOH was unsuccessful, and 87% IId was recovered. Reduction of IId with LiAlH₄ in boiling Et₂O (2 hrs.) gave traces of IIa; in boiling tetrahydrofuran (100 mg. IId, 100 mg. LiAlH₄), only 50% IIa was obtained. Infrared spectrum of IIb has a max. at 1715 cm.
M. Hradicky

73

FAJKOS, JAN

Steroids. XVIII. Cleavage of 16,17-epoxy derivatives of androstane. Jan Fajkos (Czech. akad. vhl. Prague). *Chem. Listy* 49, 1478-83 (1955) (in English); *Collection Czechoslov. Chem. Commun.* 20, 1478-83 (1955) (in English); cf. C.A. 50, 3487d. — The cleavage of 3 β -acetoxy-16 β ,17 β -epoxyandrostane (I) with AcOH gave 3 β ,17 α -diacetoxy-16 β -hydroxyandrostane (II) which was transformed to 3 β ,17 α -diacetoxy-16 α -bromoandrostane (III). HBr in CHCl₃ cleaved I to 3 β -acetoxy-16 β -hydroxy-17 α -bromoandrostane (IV); similar treatment of 3 β -acetoxy-16 α ,17 α -epoxyandrostane (V) gave an oily bromohydrin which was oxidized to 3 β -acetoxy-16 β -bromo-17-oxoandrostane (VI). In accordance with the results of the previous papers (*loc. cit.*) the cleavage of the α -epoxide give more uniform results than those of the β -oxide; this is attributed to steric hindrance by the Me at C-13. 3 β -Hydroxy-16 β ,17 β -epoxyandrostane (1 g.) dissolved in 5 ml. C₁₁H₇N treated with 3 ml. Ac₂O 20 hrs. gave 820 mg. I, m. 129-30°, [α]_D²⁰ 18°. Heating 750 mg. I 4 hrs. at 100° under N with 12 ml. AcOH in a sealed tube, dilg. the mixt. with H₂O, extg. the mixt. with Et₂O, washing the ext. with NaHCO₃, with H₂O, evapg. the solvent, and crystg. the residue from MeOH gave 280 mg. II, m. 173-9°, [α]_D²⁰ -31.5°. Acetylation of II with Ac₂O in C₁₁H₇N gave 3 β ,16 β ,17 α -triacetoxyandrostane (VII), m. 136-7° (from EtOH), [α]_D²⁰ 20.6°. VII, [α]_D²⁰ 22.2°, was also obtained by acetylation of 3 β ,16 β -diacetoxy-17 α -hydroxyandrostane. Refluxing 200 mg. VII with 10 ml. MeOH, 2 ml. H₂O, and 200 mg. K₂CO₃ 3 hrs. gave 110 mg. 3 β ,16 β ,17 α -trihydroxyandrostane, m. 243-4° (from AcOH), [α]_D²⁰ 0°. Treating

JAN FARKOŠ

2/2

100 mg. II in 2 ml. AcOH with 30 mg. CrO₃ in a min. amt. H₂O 20 hrs. at room temp., destroying the excess CrO₃ with MeOH, dilg. the mixt. with H₂O, extg. with Et₂O, washing the ext. with dil. H₂SO₄, NaHCO₃, and H₂O, evapg. the solvent, and crystg. the residue from MeOH yielded 60 mg. 3β,17α-diacetoxy-16-oxoandrosterane, m. 152°, [α]_D²⁵ -107°. Similar treatment of 3β,16β-diacetoxy-17α-hydroxyandrosterane yielded 82% 3β,16β-diacetoxy-17-oxoandrosterane (VIII), m. 150-7°, [α]_D²⁵ 60°. Hydrogenation of VIII over Pt in AcOH gave 62% 3β,16β-diacetoxy-17β-hydroxyandrosterane (IX), m. 160-2°, [α]_D²⁵ 0°, the acetylation of which yielded 3β,16β,17β-triacetoxyandrosterane, m. 190-1°, [α]_D²⁵ 20.6°. Dissolving 1 g. I in 8 ml. CHCl₃ and heating the soln. with 480 mg. HBr in 8 ml. CHCl₃ 4 hrs. at 45°, dilg. the mixt. with Et₂O, washing with NaHCO₃ and H₂O, and evapg. yielded an oil which crystd. after treatment with MeOH to give 450 mg. IV, m. 160-2°, [α]_D²⁵ -25°. Cleavage of I (1 g.) by heating 3 hrs. at 40° with 32 ml. AcOH and 1 ml. 40% HBr (in AcOH) gave 520 mg. 3β,16β-diacetoxy-17α-bromoandrosterane (X), m. 135-6°, [α]_D²⁵ -2.1°. X, [α]_D²⁵ -2.5°, was also obtained in a 77% yield by acetylation of IV. Refluxing 250 mg. IX in 10 ml. C₆H₆ 10 min. with 500

H₂O, evapg. the solvent, and chromatographing the residue (dissolved in C₆H₆) with 2.5:1 petr. ether-benzene gave 80 mg. X, [α]_D²⁵ -3.8°. Similar procedure transformed 320 mg. II to 150 mg. III, m. 177-8°, [α]_D²⁵ -19.2°. Refluxing 80 mg. X with 80 mg. KOH in 8 ml. MeOH 48 hrs., distg. off the MeOH, dilg. the residue with H₂O, extg. the product with Et₂O, evapg. the solvent, and crystg. the residue from MeOH yielded 450 mg. I, m. 147-8°, [α]_D²⁵ 32°. Treatment of 150 mg. X in 10 ml. EtOH with 300 mg. PdCaCO₃ and H₂, and after 8 hrs. treating twice with 200-mg. portions of the catalyst and H₂, dilg. the mixt. with Et₂O, acidifying with dil. HCl, removing the catalyst, washing the ether ext. with NaHCO₃ and H₂O, evapg. the solvent, and crystg. the residue from MeOH yielded 60 mg. 3β,16β-diacetoxyandrosterane, m. 105-6°, [α]_D²⁵ -7.3°. Cleavage of 500 mg. V with HBr in CHCl₃ yielded 630 g. of an oil. This dissolved in 15 ml. AcOH and treated with 250 mg. CrO₃ in a min. amt. H₂O 20 hrs. at room temp. gave 480 mg. VI, m. 147-8° (from MeOH), [α]_D²⁵ 94.5°. Unless otherwise stated, all the compds. were crystd. from MeOH. M. Hudlický